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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,482	12/18/2001	Jonah Shacknai	00-40175-US-P2	4323

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EXAMINER

VENKAT, JYOTHSNA A

ART UNIT	PAPER NUMBER
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1615

9

DATE MAILED: 03/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary***File copy*

Application No.

10/022,482

Applicant(s)

SHACKNAI ET AL.

Examiner

JYOTHSNA A VENKAT

Art Unit

1615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 January 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-62 and 81 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-62 and 81 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

Receipt is acknowledged of election/amendment A , and petition to make special filed on 12/3/02 and 1/7/03 respectively.

The amendment A cancelled the non-elected claims 63-80. Claims 1-62 and 81 are pending in the application and the status of the application is as follows:

#### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-12, 14-42, 44-62- and 81 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. **This is a written description rejection.**

To satisfy the Written description requirement, applicant must convey with reasonable clarity to one skilled in the art, as of the filing date that applicant were in possession of the claimed invention. Applicant's claims are drawn to "*a method for absorbing irritants in the skin and delivering sulfur to the skin comprising applying a composition, wherein the composition comprises one or high sorption bases, sulfur and one or more sulfur derivatives; absorbing irritants from the skin with the composition; and*

Art Unit: 1615

*delivering sulfur to the skin, wherein the skin comprises one or more of the group consisting of epidermis, dermis, and stratum corneum.*

The specification at page 2, paragraphs 6-9 define the derivatives of sulfur as selenium sulfides, potassium sulfides. These two compounds belong to the class of inorganic sulfides claimed in claim 11. The specification then describes poly-potassium sulfide, poly-calcium sulfide and then describes the compounds like thiols, organic salts and organic sulfides where R is an organic compound and its salt that can bind ionically or covalently to sulfur. The two compounds described are sodium mercaptoacetic acid. This corresponds to R being acetyl group linked covalently to sulfur and the other valence is attached to sodium atom. The next compound described is glutathione which is a tripeptide. The instant application fails to describe the nature of R. Organic by definition includes various groups. It can be unsubstituted or substituted alkyl, alkenyl, aryl, acyl, and heterocyclic. Thus the group R can include very different moieties like large peptides to the small organic molecules like monocyclic heterocyclic compounds to the simple thioglycolic acid. The same is true for Sulfites, and metabisulfites. The expression sulfur derivatives, does not meet the written description requirement as one of ordinary skill in the art could not recognize or understand the compounds from mere recitation of R being organic radical in the organic sulfide category and to the nature of inorganic in inorganic sulfites, metabisulfites. Claims employing sulfur derivatives at the point of novelty, such as applicants', neither provide guidance as to the nature R that is required to practice the inventions, nor "inform the public" during the life of the patent of the limits of the monopoly asserted. Applicants claimed expression represents only an invitation to experiment regarding possible

Art Unit: 1615

compounds suitable as sulfur derivatives, which can be used in the compositions for absorbing irritants in the skin and delivering sulfur.

3. Claims 1-12, 14-42, 44-62 and 81 rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The instant application is claiming *a method for absorbing irritants in the skin and delivering sulfur to the skin comprising*

*applying a composition, wherein the composition comprises one or high sorption bases, sulfur and one or more sulfur derivatives;*

*absorbing irritants from the skin with the composition; and*

*delivering sulfur to the skin, wherein the skin comprises one or more of the group consisting of*

*epidermis, dermis, and stratum corneum.* The three choices of sulfur derivatives claimed in

claim 11 and 41 are “sulfur trioxide, sulfuric acid and hydrogen sulfide”. All the three

compounds are not useful to practise the claimed invention because hydrogen sulfide is a

poisonous gas with a characteristic smell of rotten eggs. Applicants’ attention is drawn to the

relevant pages of Merck Index. Merck index also discloses that sulfuric acid is corrosive to all

body tissues. The specification fails to disclose the nature of the acid. The same is true for sulfur

trioxide. The Merck Index sulfur trioxide as irritant and corrosive to mucous membranes and at

the low concentration of 1PPM may cause coughing, choking and severe discomfort. The instant

application is claiming method using sulfur. Applicant’s attention is drawn to “Maibach et al., in

the Journal of American Academy of Dermatology pp, 154-155(1990) This article is provide by

Art Unit: 1615

applicants in the parent application S.NO. 09/607,88. The article clearly teaches that using 6% sulfur in the base petrolatum is effective and higher concentration of sulfur is toxic. The instant specification fails to describe the concentration of these three components and the subjects that have been treated using these components in the composition. Based upon the above facts, it is the examiner's position that only specific concentration of sulfur can be used for the claimed method without causing toxicity, and also the three sulfur derivatives cannot be used for the claimed method. See *In re Marzocchi* 169, USPQ 367.

4. Claims 1-12, 14-42, 44-62 and 81 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for using the claimed compositions which has sulfur and sodium sulfacetamide, does not reasonably provide enablement for claimed method for absorbing irritants in the skin or method of delivering sulfur and absorbing irritants to the skin using sulfur and sulfur derivatives or sulfur and the various sulfur derivatives claimed in the Markush group. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims..

There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is “undue”. See *In re Wands*, 858 F.2d 731, 737, 8 USPQ 2d 1400, 1404 (Fed. Cir. 1998). The court set forth the eight factors to consider when assessing if a disclosure would require undue experimentation. Citing *Ex parte Forman*, 230 USPQ 546, the court recited eight factors

These factors include, but are not limited to:

Art Unit: 1615

- 1) *The breadth of the claims,*
- 2) *The nature of the invention,*
- 3) *The state of the prior art,*
- 4) *The level of one of ordinary skill,*
- 5) *The level of predictability in the art,*
- 6) *The amount of direction provided by the inventor,*
- 7) *The existence of working examples*
- 8) *The quantity of experimentation needed to make or use the invention based on the content of the disclosure.*

(1 and 2) The breadth of the claims and the nature of the invention: The claims are drawn to *method for absorbing irritants in the skin and delivering sulfur to the skin comprising applying a composition, wherein the composition comprises one or high sorption bases, sulfur and one or more sulfur derivatives;*  
*absorbing irritants from the skin with the composition; and*

*delivering sulfur to the skin, wherein the skin comprises one or more of the group consisting of epidermis, dermis, and stratum corneum. and method of delivering sulfur to the skin and for absorbing irritants in the skin (claim 81)*

3. The state of the prior art: *The art cited above by Maibach et al. ,clearly teaches that sulfur at certain concentration causes toxicity. Applicant's attention is drawn to col.2, page 155, where the article teaches that infant treated with 10% sulfur had illness and at the last paragraph Maibach et al., state that 6% sulfur is not toxic.*

(6-7) The amount of direction provided by the inventors and the existence of working examples: *Applicants have provided at page 12 of specification data with respect to the four formulations A, B, C and D. All the four formulations use sulfur and sodium sulfacetamide as the sulfur derivative for the claimed method. The specification describes various compounds for the sulfur derivatives. See the written description rejection. The specification fails to describe the nature R for the organic sulfide and nature of R for the sulfites and inorganic sulfites. None of the sulfur derivatives are art-recognized equivalents. They are drawn to divergent compounds.*

(8) The quantity of experimentation needed to make or use the invention bases on the content of the disclosure: *The claims recite “ sulfur derivatives , organic sulfides, cationic sulfur compounds, bisulfides, sulfur trioxide, sulfuric acid, thiols. The instant specification gives no indication to one skilled in the art, that one could use the combination of sulfur with different sulfur derivatives which are divergent in nature and have a reasonable expectation of success. Due to the divergent nature of the sulfur derivatives, one of ordinary skill in the art cannot extrapolate the test results to all the sulfur derivatives, and the practice of the full scope of the invention would require undue experimentation.*

5. Claims 1-62 and 81 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The following reasons apply:

I. The recitation of “ comprises one or more of the group consisting of “ for defining the Markush group is indefinite. The claims are unclear as to applicant’s intent (claims 1, 11-12, 2130,41-42,50, 60 and 81).



Art Unit: 1615

II. The expression “ cationic sulfur compounds” is without metes and bounds. Proper support in the specification to the specific compound in this category would be given careful consideration.

III. Claims 7-8, 13, 168, 21, 24, 26, ,37, 37-39, 43, 46-48,51, and 54 are unclear as to applicant’s intent. The claims recite “ comprises” followed by one compound. The claim would read better by amending “ comprises “ to “ is”.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-15, 20,,30-36, 41-45,50,56, 60 and 81 are rejected under 35 U.S.C. 102(b) as being anticipated by sulfur revisited article” by Lin et al in American Journal of Dermatology pp553-558(1988).

8. **Applicants are notified that the Lin article is not provided with this office action as it is cited by applicants and provided to the examiner in the parent application.**

Claim 30 is drawn to the irritants, sweat and sebum and the article anticipates the claimed method as the sulfur is useful for treating acne, see table II. The claimed method is inherent. Bentonite reads on the claimed clay. See table IV.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1615

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 1-62 and 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Lin et al article cited in 102 rejection and U. S. Patent 4,388,301 ('301) and Skin care and cosmetic ingredients dictionary, page 317(1994).

The instant application is claiming *a method for absorbing irritants in the skin and delivering sulfur to the skin comprising*

*applying a composition, wherein the composition comprises one or high sorption bases, sulfur and one or more sulfur derivatives;*

*absorbing irritants from the skin with the composition; and*

*delivering sulfur to the skin, wherein the skin comprises one or more of the group consisting of epidermis, dermis, and stratum corneum*

*and the composition comprises sorption base which can be silica or clay or gum or swelling clay.*

Art Unit: 1615

The Lin et al., article as explained in the 102 section discloses the claimed method of absorbing the irritant which is sweat and sebum by using sulfur and sulfacetamide. Some of the formulation disclosed in table IV of the article uses bentonite which belongs to clay. The difference between the article and the instant application is the article does not teach the limitations claimed in the dependent claims with respect to silica and gum and specific clays. However the patent '301 teaches treating acne using poly-sulfide compounds which is claimed in the instant application as the sulfur derivative along with clays and silica. See the abstract, see cols.2-3, see col.3, lines 50 et seq for the different clays and see examples. The example IV teaches silica and silicates. The patent does not teach gum. Gums are used as gelling agents or thickeners in the formulations. The skin care dictionary teaches Xanthum gum as a thickener.

Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to prepare compositions of the Lin et al., article and combine it with the *clays and silica* of '301, and combine it with xanthan gum taught by the dictionary as a thickener in the formulations, expecting beneficial effect to the skin, which is absorbing irritants like sweat and sebum that causes acne. The motivation to combine the ingredients silica and clays flows logically from the art for having been used in the same compositions for treating acne and the motivation to use any gum or xanthan gum stems from the scientific fact that the gums are used in the formulations as thickeners or gelling agents. This is a prima facie case of obvious ness.

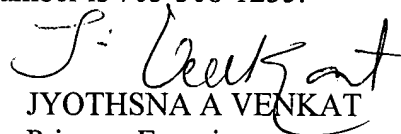
12. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Art Unit: 1615

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JYOTHSNA A VENKAT whose telephone number is 703-308-2439. The examiner can normally be reached on M-F, 9:30-6:30:1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, THURMAN K PAGE can be reached on 703-308-2927. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3592 for regular communications and 703-308-7924 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235.

  
JYOTHSNA A VENKAT  
Primary Examiner  
Art Unit 1615

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March 22, 2003